

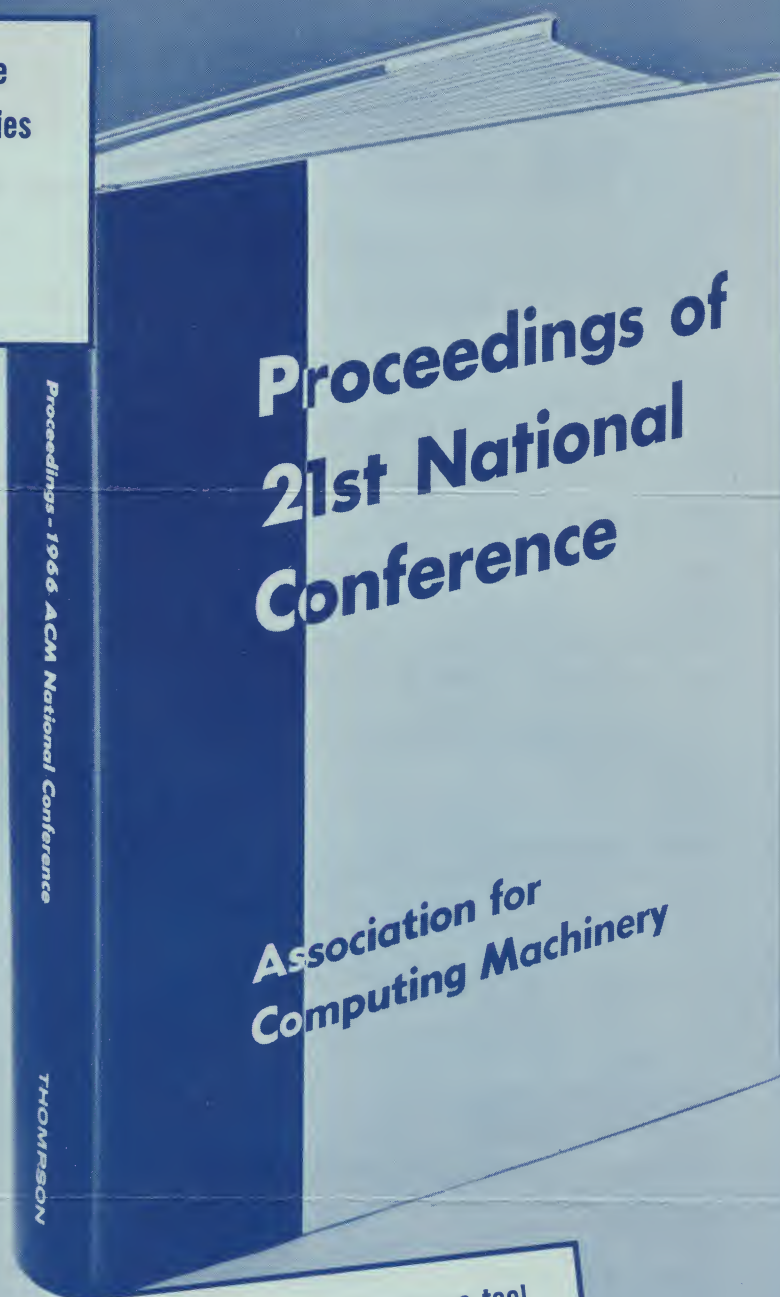
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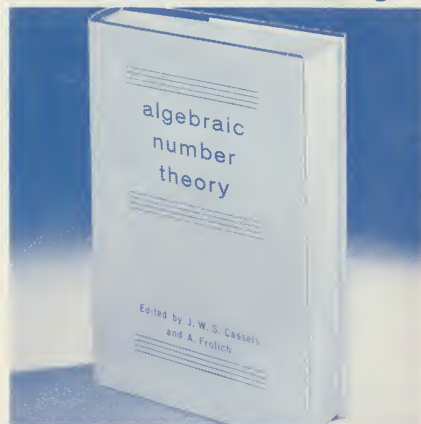
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The opening chapters in this work give a broad introduction to algebraic number theory; followed by the elementary and utilitarian tools needed for class field theory. The section on class field theory should dispel forever the aura of mystery which has previously surrounded the subject. The emphasis throughout is on intelligibility; the reader who has mastered what is done here can approach the rest of the literature with confidence. The concluding chapter is Tate's thesis (Princeton, 1950), which has been seminal for later developments but was never published. **Contents include: Cohomology of Groups; Zeta-functions and L-functions; Semi-simple Algebraic Groups; Applications of Computers to Class Field Theory; Fourier Analysis in Number Fields.**

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from the U.S.S.R. —
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by A. G. Arkadev and
E. M. Braverman
(Translated from the Russian
by J. D. Cowan and W. Turski)

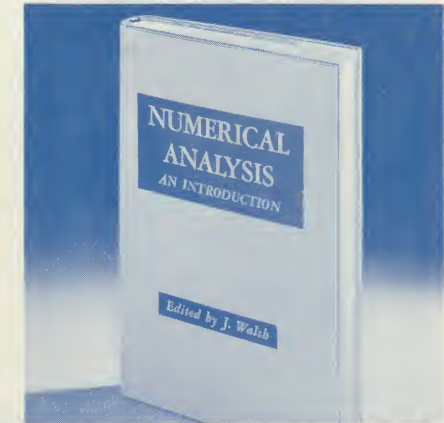
This book fills an important need for up-to-date information about Soviet developments in a rapidly-growing field. The underlying assumption throughout is that images form "compact" sets in a suitable representative "space" whose "coordinates" are the distinct "features" of the patterns presented to the machine. The image-compactness hypothesis is used as a point of reference for the analysis of different designs for the construction of pattern-recognizing machines. The algorithms underlying two well-known Western machines, the PERCEPTRON and the PAPA are also discussed in terms of this hypothesis. **Contents include:** Dissecting Planes Algorithm; Algorithms Based on Potentials Method; Possible Ways of Further Improvement of Cognitive Machines.

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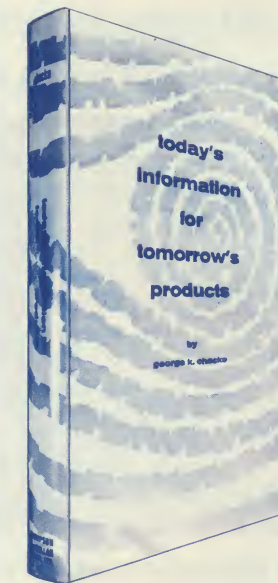
Edited by J. Walsh, Dept. of Mathematics,
the University, Manchester, England
(Based on a Symposium organized by the
Institute of Mathematics and Its Applications,
held in Birmingham, England)

Individual chapters in this book are largely self-contained. The account of theory and methods is sufficiently detailed for readers who want to go further to study the more advanced works listed in the references. Subjects covered include linear algebra and the eigenvalue problem, ordinary and partial differential equations, methods of approximation and function minimization, and some applications of modern techniques to industrial problems. A concluding chapter considers the effect of the growth of numerical work on teaching. **Contents include:** Applications of Computers to Pure Mathematics; Techniques of Operational Research; Computation in School and University Teaching. There are two complete indexes, one classified by subject, the other by author.

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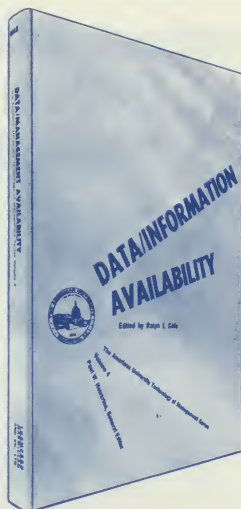
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Edited by Ralph I. Cole

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